

REMARKS

Claims 1-26 of the present application remain pending. Claims 27-30 are withdrawn.

CLAIM REJECTIONS 35 U.S.C. § 103

Claims 1, 4, 6-7, 9, 14, 17, 19-20, and 22 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Smith (U.S. Patent No. 5,949,997), hereinafter referred to as "Smith," and Zaida et al. (U.S. Patent No. 6,542,981), hereinafter referred to as "Zaida." The Applicants respectfully submit that claim limitations recited in Claims 1 and 14 of the present invention are neither taught nor suggested by Smith alone, or in combination with Zaida. For example, Claim 1 of the present invention recites:

A method for updating contents of a first memory of a handheld computer system, said method comprising the steps of:

- a) receiving new information for said first memory from an external source, said first memory for storing information that is required during startup of said handheld computer system;
- b) storing said new information in a nonvolatile second memory of said handheld computer system;
- c) restarting said handheld computer system without relying on said new information;
- d) verifying said new information stored in said second memory to ensure that it is safe to load said new information into said first memory; and
- e) responsive to said verifying, loading said new information from said second memory into said first memory wherein said new information stored in said first memory can be used for a subsequent startup of said handheld computer system.

Claim 14 of the present invention recites:

A handheld computer system comprising:
a processor;
a first memory, coupled to said processor, for storing information that is required during startup of said handheld computer system;
an input output device, coupled to said processor, for receiving new information intended for said first memory from an external source;
a second memory, coupled to said processor, for storing said new information, said second memory capable of retaining information stored therein upon a restart of said handheld computer system;
said processor for restarting said handheld computer system without relying on said new information; said processor further for verifying said new information stored in said second memory to ensure that it is safe to load said new information into said first memory; and said processor also for loading said new information from said second memory into said first memory such that said new information stored in said first memory can be used for a subsequent startup of said handheld computer system provided that said verifying of said new information yields a positive verification result.

The Applicants respectfully submit that Smith does not teach or suggest loading new information from the second memory into the first memory and using the new information stored in the first memory in a subsequent startup of a handheld computer system as recited in Claims 1 and 14. Instead, Smith teaches re-designating the second memory as the new default boot bank. For example, column 4, lines 4-14 of Smith recite (emphasis added):

The SWITCH signal 30 instructs the reset circuit 12 to assert a BOOT SELECT signal 28 to the address decoder 16 to switch the boot sequence from the default bank to the non-default bank, e.g., flash memory bank A 20 to flash memory bank B 22, or vice versa, depending on which bank 20 or 22 is the default. The CONFIRM signal 32 is sent to the reset circuit 12 if the boot sequence is successful. The reset circuit 12 then updates the data in its non-volatile memory to identify the current non-default bank as the default bank for future boot sequences.

The Applicants respectfully submit that re-designating one memory bank or the other as the default memory bank teaches away from the recited claim

limitation of loading the new information from the second memory into the first memory and using the information stored in the first memory for a subsequent startup of a handheld computer system. Therefore, the Applicants respectfully submit that the claim limitations recited in independent Claims 1 and 14 of the present invention are not taught or suggested by Smith.

The Applicants respectfully submit that Zaida fails to overcome the shortcomings of Smith. For example, Zaida teaches a conventional flash memory upgrade method in column 5, lines 10-30 and states in lines 10-13 that upgrading the writeable non-volatile memory, "is achieved by a flash memory upgrade known to those skilled in the art." Zaida further teaches in column 5, lines 42-45:

This transfer will occur whenever the electronic system is booted or restarted after the microcode upgrade is installed on writeable non-volatile memory, as shown in block 130.

However, Zaida fails to teach or suggest the recited limitation of verifying the new information stored in the second memory to ensure that it is safe to load prior to loading the new information into the first memory. The Applicants respectfully submit that the prior art conventional flash memory upgrade methods taught by Zaida may be error-prone. For example, page 3, lines 7-10 of the instant application describe existing processes for updating boot code and OS code in flash ROM as being inherently error-prone which may not be interrupted or else the ROM will be corrupted or rendered unusable. Zaida fails to teach or suggest verifying the BIOS upgrade prior to loading it into the writeable non-volatile memory.

Additionally, the Applicants assert that Smith teaches away from Zaida because Smith teaches that two copies of the BOOT sequence are stored in a plurality of flash banks, one of which is designated the default flash bank. However, Zaida teaches that the BIOS microcode is automatically installed into the flash memory without verifying the microcode or storing a second copy thereof. As a result, the method of Zaida results in a single copy of the BIOS code being stored in the flash memory. The Applicants further submit that there is no motivation for combining the methods of Smith and Zaida in the manner recited in Claims 1 and 14 of the present invention as each of the cited references teaches a complete and functional method. Accordingly, the Applicants respectfully submit that the rejection of Claims 1 and 14 under 35 U.S.C § 103(a) is overcome.

Furthermore, the Applicants respectfully submit that the determination of obviousness cannot be based on the hindsight combination of components selectively culled from the prior art to fit the parameters of the present invention. There must be a teaching or suggestion within the prior art to select particular elements, and to combine them in the way claimed. The Applicants respectfully submit that neither Smith nor Zaida teach or suggest the claim limitations recited in Claims 1 and 14 of the present invention.

Claims 4, 6, 7, and 9, depend from Claim 1 and recite additional limitations descriptive of embodiments of the present invention. The Applicants respectfully submit that the claim limitations recited in Claim 1 are not taught or suggested by Smith alone, or in combination with Zaida. Accordingly, the Applicants respectfully

submit that the rejection of Claims 4, 6, 7, and 9 under 35 U.S.C § 103(a) are overcome.

Claims 17, 19, 20, and 22 depend from Claim 14 and recite additional limitations descriptive of embodiments of the present invention. The Applicants respectfully submit that the claim limitations recited in Claim 14 are not taught or suggested by Smith alone, or in combination with Zaida. Accordingly, the Applicants respectfully submit that the rejection of Claims 17, 19, 20, and 22 under 35 U.S.C § 103(a) are overcome.

With reference to Claims 11 and 24, the Applicants respectfully submit that the additional claim limitations recited in Claims 11 and 24 are not taught or suggested by Smith alone, or in combination with Zaida. For example, neither Smith nor Zaida teach or suggest receiving new information via wireless communication as recited in Claims 11 and 24. The rejection cites a communications port of Smith as anticipating the recited claim limitation of receiving new information via wireless communication. On page 16, lines 14-19, the instant application teaches (emphasis added):

In one embodiment, the computer system is a PDA. In another embodiment, the external source is also a PDA. Moreover, in a currently preferred embodiment, the new information is received by the computer system via wireless communication (e.g., infrared beaming). It is appreciated that various forms of data communication, wired or wireless-based, can also be used within the scope of the present invention.

Wireless communication is used between the PDAs because users do not typically carry networking equipment such as cabling, switches, routers, etc. which would be

used to communicatively couple the PDAs in a conventional data network. Therefore, the claim limitation recited in Claims 11 and 24 of receiving the new information via wireless communication is descriptive of embodiments of the present invention which are neither taught nor suggested by Smith alone, or in combination with Zaida. Accordingly, the Applicants respectfully submit that the rejection of Claims 11 and 24 under 35 U.S.C § 103(a) is overcome.

Claims 2, 8, 10, 15, 21 and 23 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Smith, Zaida, and Tamori et al (U.S. Patent No. 5,960,444), hereinafter referred to as "Tamori." As discussed above, the Applicants respectfully submit that the embodiments of the present invention as recited in independent Claims 1 and 14 are neither taught nor suggested by Smith alone, or in combination with Zaida.

More specifically, the Applicants respectfully submit that Smith teaches away from the embodiment of the present invention by reciting a method and system which re-designates which memory bank is the default boot memory bank while Zaida teaches that the flash memory contents are updated without verifying that the new microcode is a valid copy which is safe to load into the flash memory.

The cited combination does not teach or suggest the claimed invention because the Applicants respectfully submit that Tamori does not overcome the shortcomings of Smith or Zaida. For example, the Applicants respectfully submit

that Tamori does not teach or suggest the recited claim limitations of Claims 1 and 14 comprising:

- a) receiving new information for said first memory from an external source, said first memory for storing information that is required during startup of said handheld computer system;
- b) storing said new information in a nonvolatile second memory of said handheld computer system;
- c) restarting said handheld computer system without relying on said new information;
- d) verifying said new information stored in said second memory to ensure that it is safe to load said new information into said first memory; and
- e) responsive to said verifying, loading said new information from said second memory into said first memory wherein said new information stored in said first memory can be used for a subsequent startup of said handheld computer system.

Thus, a combination of Smith, Zaida and Tamori would still result in a system which either designates a memory bank as the default boot memory bank, or automatically rewrites the flash memory contents without verifying that the new information is safe to load into the first memory.

With reference to Claims 2 and 15, the Applicants respectfully submit that Tamori does not teach or suggest the combination of the above recited claim limitations in combination with the additional limitation of:

copying existing information in said first memory to said second memory such that said existing information can be restored into said first memory should said first memory become corrupted.

Therefore, the Applicants respectfully submit that the embodiments of the present invention recited in Claims 2 and 15 are not rendered obvious by Smith alone or in combination with Zaida and Tamori. Accordingly, the Applicants

respectfully submit that the rejection of Claims 2 and 15 under 35 U.S.C § 103(a) is overcome.

With reference to Claims 8 and 21, the Applicants respectfully submit that Tamori does not teach or suggest the combination of the above recited claim limitations of Claims 1 and 14 with the additional limitation of the new information comprises operating system code. Therefore, the Applicants respectfully submit that the embodiments of the present invention recited in Claims 8 and 21 are not rendered obvious by Smith alone or in combination with Zaida and Tamori. Accordingly, the Applicants respectfully submit that the rejection of Claims 8 and 21 under 35 U.S.C § 103(a) is overcome.

With reference to Claims 10 and 23, the Applicants respectfully submit that Tamori does not teach or suggest the combination of the above recited claim limitations of Claims 1 and 14 in combination with the additional limitation of the second memory comprises a random access memory (RAM). Therefore, the Applicants respectfully submit that the embodiments of the present invention recited in Claims 10 and 23 are not rendered obvious by Smith alone or in combination with Zaida and Tamori. Accordingly, the Applicants respectfully submit that the rejection of Claims 10 and 23 under 35 U.S.C § 103(a) is overcome.

Claims 3 and 16 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Smith, Zaida, and Hill (U.S. Patent No. 5,987,605), hereinafter referred to as "Hill." As discussed above, the Applicants respectfully submit that the

embodiments of the present invention as recited in independent Claims 1 and 14 are neither taught nor suggested by Smith alone or in combination with Zaida.

The Applicants respectfully submit that Hill does not overcome the shortcomings of Smith and Zaida. Specifically, Hill does not teach or suggest, "loading said new information from said second memory into said first memory wherein said new information stored in said first memory can be used for a subsequent startup of said computer system," as recited in Claims 1 and 14 of the present invention. Instead, the Applicants respectfully submit that Hill teaches away from the embodiment of the present invention in column 2, lines 31-34 which state:

Methods and associated apparatus of the present invention enable selection of either the primary or secondary boot memory device for initial use by the associated programmable device.

Hill further teaches away from the embodiment of the present invention in column 2, lines 43-52 which state:

The boot memory device selected by the reset sending features of the present invention is referred to herein as the active memory (or presently active memory) whereas the memory (or memories) not so selected is referred to as inactive memory (or presently inactive memory). Therefore, either the primary or secondary boot memory device may be deemed the presently active memory by operation of the sensing and selection features of the present invention. In other words, the presently active memory is the one used boot the programmable device.

Thus, the Applicants respectfully submit that both Smith and Hill teach away from the embodiment of the present invention in reciting systems which designate one or the other of a plurality of memory devices as the active (or bootable) memory device while Zaida teaches automatically rewriting the flash

memory contents without verifying that the new information is safe to load into the first memory.

Claims 5 and 8 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Smith, Zaida, and Lim (U.S Patent No. 6,138,233), hereinafter referred to as "Lim." As discussed above, the Applicants respectfully submit that the embodiments of the present invention as recited in independent Claims 1 and 14 are neither taught nor suggested by Smith alone, or in combination with Zaida.

The Applicants respectfully submit that Lim does not overcome the shortcomings of Smith and Zaida. For example, Lim does not teach or suggest the recited claim limitations of Claims 1 and 14 comprising:

- a) receiving new information for said first memory from an external source, said first memory for storing information that is required during startup of said handheld computer system;
- b) storing said new information in a nonvolatile second memory of said handheld computer system;
- c) restarting said handheld computer system without relying on said new information;
- d) verifying said new information stored in said second memory to ensure that it is safe to load said new information into said first memory; and
- e) responsive to said verifying, loading said new information from said second memory into said first memory wherein said new information stored in said first memory can be used for a subsequent startup of said handheld computer system.

Thus, a combination of Smith, Zaida and Lim would still result in a system which either designates a memory bank as the default boot memory bank, or automatically rewrites the flash memory contents without verifying that the new information is safe to load into the first memory.

With reference to Claims 5 and 18, the Applicants respectfully submit that Lim does not teach or suggest the combination of the above recited claim limitations with the additional limitation of:

step d) comprises the step of checking a power level of said computer system to ensure that said step e) can be completed without a power failure.

Therefore, the Applicants respectfully submit that the embodiments of the present invention recited in Claims 5 and 18 are not rendered obvious by Smith alone or in combination with Zaida and Lim. Accordingly, the Applicants respectfully submit that the rejection of Claims 5 and 18 under 35 U.S.C § 103(a) is overcome.

Claims 12 and 25 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Smith, Zaida, and Pierre-Louis et al. (U.S. Patent No. 6,421,777), hereinafter referred to as "Pierre-Louis." As discussed above, the Applicants respectfully submit that the embodiments of the present invention as recited in independent Claims 1 and 14 are neither taught nor suggested by Smith alone, or in combination with Zaida.

The Applicants respectfully submit that Pierre-Louis does not overcome the shortcomings of Smith and Zaida. For example, Pierre-Louis does not teach or suggest the recited claim limitations of Claims 1 and 14 comprising:

- a) receiving new information for said first memory from an external source, said first memory for storing information that is required during startup of said handheld computer system;
- b) storing said new information in a nonvolatile second memory of said handheld computer system;
- c) restarting said handheld computer system without relying on said new information;
- d) verifying said new information stored in said second memory to ensure that it is safe to load said new information into said first memory; and
- e) responsive to said verifying, loading said new information from said second memory into said first memory wherein said new information stored in said first memory can be used for a subsequent startup of said handheld computer system.

Thus, a combination of Smith, Zaida, and Pierre-Louis would still result in a system which either designates a memory bank as the default boot memory bank, or automatically rewrites the flash memory contents without verifying that the new information is safe to load into the first memory.

With reference to Claims 12 and 25, the Applicants respectfully submit that Pierre-Louis does not teach or suggest the combination of the above recited claim limitations with the additional limitation that the computer system is a personal digital assistant (PDA). Accordingly, the Applicants respectfully submit that the rejection of Claims 12 and 25 under 35 U.S.C § 103(a) is overcome.

Claims 13 and 26 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Smith, Zaida, Pierre-Louis, and Theimer et al. (U.S. Patent No. 6,421,777), hereinafter referred to as Theimer." As discussed above, the Applicants respectfully submit that the embodiments of the present invention as recited in independent Claims 1 and 14 are neither taught nor suggested by Smith alone, or in combination with Zaida and Pierre-Louis.

The Applicants respectfully submit that Theimer fails to overcome the shortcomings of Smith, Zaida, and Pierre-Louis. For example, neither Smith, Zaida, Pierre-Louis, nor Theimer teach or suggest the recited claim limitations of Claims 1 and 14 comprising:

- a) receiving new information for said first memory from an external source, said first memory for storing information that is required during startup of said handheld computer system;
- b) storing said new information in a nonvolatile second memory of said handheld computer system;
- c) restarting said handheld computer system without relying on said new information;
- d) verifying said new information stored in said second memory to ensure that it is safe to load said new information into said first memory; and
- e) responsive to said verifying, loading said new information from said second memory into said first memory wherein said new information stored in said first memory can be used for a subsequent startup of said handheld computer system.

Thus, a combination of Smith, Zaida, Pierre-Louis, and Theimer would still result in a system which either designates a memory bank as the default boot memory bank, or automatically rewrites the flash memory contents without verifying that the new information is safe to load into the first memory.

Accordingly, the Applicants respectfully submit that neither Pierre-Louis nor Theimer teach or suggest the above claim limitations with the additional claim limitation recited in Claims 13 and 26 wherein the external source of the new information is a personal digital assistant (PDA).

Thus, the Applicants respectfully submit that there is no teaching or suggestion in Smith alone or in combination with Zaida, Pierre-Louis and Theimer, that renders obvious the embodiments of the present invention as recited in Claims 13 and 26. Accordingly, the Applicants respectfully submit that the rejection of Claims 13 and 26 under 35 U.S.C § 103(a) is overcome.

CONCLUSION

Based on the arguments presented above, the Applicants respectfully assert that Claims 1-26 overcome the rejections of record and, therefore, the Applicants respectfully solicit allowance of these Claims.

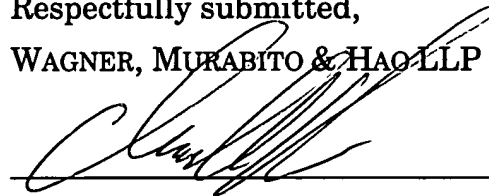
The Applicants have reviewed the references cited but not relied upon. The Applicants do not find these references to teach or suggest the present claimed invention: U.S. 6,044,461, U.S. 5,692,190, U.S. 5,022,077, U.S. 2003/0074549.

The Examiner is invited to contact Applicants' undersigned representative if the Examiner believes such action would expedite resolution of the present Application.

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